

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Art Unit 3685

Geoffrey B. Rhoads

Conf. No.: 9782

Application No.: 09/574,726

Filed: May 18, 2000

For: MUSIC METHODS AND SYSTEMS

**Via Electronic Filing**

Examiner: C. Agwumezie

Date: May 7, 2009

**REPLY BRIEF**

Sir:

This brief is responsive to the Examiner's Answer mailed March 9, 2009.

Section 112 Rejections of Claims 1, 8 and 11Written Description

The Answer only offers an unsupported conclusion that there is no written description support for particular claim language of claims 1, 8 and 11 in the specification. On the issue of written description, the Answer focuses only on the cited example in the specification at page 8, lines 8-14 and ignores the fact that the '260 patent, incorporated by reference, forms part of the specification for written description support. The Appeal Brief outlines detailed support for the claim language at issue in the '260 patent (see page 4 of the Appeal Brief outlining examples of support for the claims language in the '260 patent, as well as pages 9-10 of the Argument section). When one looks at the specification as a whole, including both the example in the specification at page 8, lines 8-14 and the many related supporting teachings of the '260 patent, the specification clearly demonstrates to one of skill in the art that the inventor was in possession of this aspect of the invention. These citations are provided as examples to simplify the analysis, and when considered in the context of the extensive teaching in the specification, clearly demonstrate that the inventor was in possession of the invention.

The claim language at issue for both written description and indefiniteness is: "the visual or audio signals including imperceptible modifications to perceptible parts of the visual or audio signals to embed the plural-bit auxiliary data in the perceptible parts in a

manner that is imperceptible to a user, the imperceptible modifications adaptively changing values of the perceptible parts of the visual or audio signals by a varying amount that depends on the values of the perceptible parts.”

The following is a chart that breaks down these claim elements at issue and shows the written description support in the specification.

Claim Term	Corresponding Example of Support
visual or audio signals	e.g., music at page 8, line 12 of the specification; e.g., pixel at col. 7, lines 6-17, ‘260 patent; and e.g., music and videotape recordings at col. 15, line 46 to col. 15, line 67
imperceptible modifications of the visual or audio signals	e.g., page 8, line 9 of the specification describes modifications to music signals to encode a digital watermark payload; and the ‘260 patent describes adding a signal to encode N bits in video “without becoming noticeable to the average human eye” col. 3 at lines 60-67, e.g., generally imperceptible” addition/subtraction of a scaled noise signal at col. 16, line 67, and “level of imperceptibility” of an embedded identification signal at col. 22, lines 53-63 of the ‘260 patent
perceptible parts	e.g., music signal energy is a perceptible part (page 8, lines 11-14 of specification), e.g., brightness of pixel at col. 7, lines 3-7 of the ‘260 patent is also a perceptible part of video signals
to embed the plural-bit auxiliary data in the perceptible parts in a manner that is imperceptible to a user	e.g., “payload is encoded” in parts of the music where the instantaneous amplitude of the music or music signal energy provides psychoacoustic masking of the encoded signal at page 8, lines 6-14. In one of the embodiments of the ‘260 patent, for example, a 4000 by 4000 composite embedded code signal is embedded coextensively with the 4000 by 4000 pixel image by modifying the brightness values of the pixels at an amplitude level relative to the amplitude of the brightness value that is below a perceptibility threshold. Variants of this approach as well as other approaches are described throughout the ‘260 patent. See, e.g., col. 3, lines 60-67

	(applying to video and audio), col. 7, lines 3-7, col. 8, lines 11-45 (applying to brightness values of pixels), col. 16, lines 65-67 (applying to music and video), and col. 22, lines 53-63 of the ‘260 patent.
the imperceptible modifications adaptively changing values of the perceptible parts of the visual or audio signals by a varying amount that depends on the values of the perceptible parts	Imperceptible modifications are already addressed above in this chart. The “perceptually adaptive encoding” referenced at page 8, lines 8-14 of the specification, includes adaptively changing the instantaneous amplitude or music signal energy by a varying amount that depends on the instantaneous amplitude or music signal energy. Likewise, for the video and audio signals described in the ‘260 patent, the amplitude of the noise signal added to, for example, the brightness amplitudes of the video or the amplitude of digital audio samples, is varied by an amount dependent on the brightness amplitudes or audio amplitudes so that the amount of added noise (and thus change in the brightness values or audio samples) is below a threshold at which the added noise becomes noticeable to a user. Several citations have been provided above and in the Appeal Brief, including, e.g., col. 3, lines 60-67 (applying to video and audio), col. 7, lines 3-7, col. 8, lines 11-45 (applying to brightness values of pixels), col. 16, lines 65-67 (applying to music and video), and col. 22, lines 53-63 of the ‘260 patent.

As clearly shown above and in the Appeal Brief, there is written description support for the cited claim language in the specification (which includes the ‘260 patent) and the ‘260 patent itself. The Examiner fails to even address the supporting citations in the ‘260 patent. Therefore, the written description rejection cannot be maintained and must be reversed.

### The Cited Claim Language is Definite

The Examiner's Answer does not comment on any of the detailed citations explaining why one of ordinary skill in the art would understand the claim language at issue, except to state in an unsupported conclusion that there is no support in the specification and the '260 patent specification does not cure the deficiency.

As clearly demonstrated in the brief and in the above chart, there is ample teaching in the specification, including the '260 patent that forms a part of it, as to make the meaning of the claim terms at issue readily understood by one of skill in the art. The Examiner's concern with the language was phrased simply as a question: "How is this process performed and what values are being changed in the performance of this process?" See Final Action at page 3. This exact same question is raised in the Examiner's Answer at page 4. Both the Request for Pre-Appeal Review and the Appeal Brief answered these questions in extensive detail, yet the Examiner's Answer simply repeated the same question in the Answer and failed to provide any substantive analysis of the detailed support provided in good faith by the Applicant to answer the Examiner's question. Applicant can only be expected to respond to specific grounds offered by the Examiner concerning indefiniteness, and Applicant has clearly done so by providing an extensive response to the questions the Examiner raised. The indefiniteness rejection cannot be sustained and must be reversed.

### Priority

The Examiner makes two points regarding the priority claim to the '260 patent, both of which are clearly erroneous. The first point alleges that the Examiner is unaware of any priority claim to the '260 patent, which is in direct contrast to his statements in the prosecution history of this application. The second point is that Applicant is not entitled to priority because the application from which the '260 patent issued (08/649,419) was not co-pending with this application, which is clearly incorrect because priority is claimed to this application through a co-pending application (09/186,962) with common subject matter and common inventor Rhoads.

The Examiner Fully Considered and was Persuaded by the Priority Claim to the ‘260 Patent

The following priority claim was made in April 2005 amendment to the application and an accompanying data sheet:

“This application is a continuation in part of application 09/186,962, filed November 5, 1998, which is a continuation of application 08/649,419, filed May 16, 1996 (now patent 5,862,260), which is a continuation-in-part of the following applications: PCT/US96/06618, filed May 7, 1996; application 08/637,531, filed April 25, 1996 (now Patent 5,822,436); application 08/534,005, filed September 25, 1995 (now patent 5,832,119); application 08/508,083, filed July 27, 1995 (now patent 5,841,978); application 08/436,102, filed May 8, 1995 (now patent 5,748,783); and application 08/327,426, filed October 21, 1994 (now patent 5,768,426).”

Since the application was filed prior to November 29, 2000, the effective date of time limits set in 37 C.F.R. Section 1.78, no petition for an unintentionally delayed priority claim was required. The April 2005 amendment and the Application Data Sheet were entirely appropriate means of making an amendment to the priority claim after the filing date of the application.

In the remarks section of this April 2005 amendment, Applicant pointed out that: “Applicant has amended the priority claim of this application to claim priority to the ‘260 patent. Each of the patents and application in the chain of priority from this application to the ‘260 patent support the claims, have a common inventor (namely, Geoff Rhoads) and satisfy co-pendency required to establish a claim of priority under 35 U.S.C. 120. Therefore, the ‘260 patent is not prior art, and the rejection based on the ‘260 patent should be withdrawn.”

This April 2005 amendment was in response to a Section 102(b) rejection over the ‘260 patent, in which the Office stated that the ‘260 patent disclosed the elements of the pending claims. In the June 2005 Office Action, the Examiner entered this amendment, and withdrew the rejection based on the ‘260 patent. In fact, the Examiner specifically stated that “Applicant’s arguments, see response to office action, filed on April 4, 2005, with respect to the rejection(s) of claim(s) 1-14 and 26-29 under Rhoads U.S. Patent 5,862,260 have been fully considered and are persuasive.” Through this

statement, the Examiner expressly acknowledged the validity of the priority claim to the ‘260 patent and associated basis for it stated in the remarks section of the April 2005 amendment.

Applicant again relied in part on the priority claim in at least one more response that the Examiner entered, specifically including the October 2005 response, which the Examiner acknowledged as persuasive in the December 22, 2005 Action.

The Priority Claim to the ‘260 Patent Satisfied the Co-Pendency Requirement

As shown above, the application claims priority to 08/649,419 (issued as the ‘260 patent on January 19, 1999), through application 09/186,962, filed November 5, 1998 (issued as 7,171,016 on January 30, 2007). The application on appeal was filed on May 18, 2000, which is clearly during the co-pendency period of 09/186,962, the intervening application through which priority is claimed to the ‘260 patent. This co-pendency was clearly noted in the April 2005 amendment, which the Examiner “fully considered” and deemed “persuasive.”

Since the priority claim satisfies the pertinent legal requirements, including the ones alleged to be deficient in the Answer, the priority claim must be deemed valid. The Examiner contends that the “sole basis” for seeking reversal of certain rejections based on Van Wie is the qualification of Van Wie as prior art. The Examiner is correct that the Applicant relies on the priority claim to disqualify Van Wie as prior art in this Appeal. However, it is worth noting that this does not mean it is the only argument for patentability.

Moreover, the Examiner’s assertion that Van Wie teaches the claim terms of claims 1, 8 and 11 that are cited in the Section 112 rejection further reinforces that point that the ‘260 patent provides 112 support for these claim terms because Van Wie provides far less detail regarding the encoding process pertinent to these claim terms than the ‘260 patent. Thus, if Van Wie teaches the claim elements at issue as indicated by the Examiner, then the ‘260 patent clearly does too. Applicant is not merely relying on this position of the relative teachings of Van Wie, but instead, went further to fully document the support in the specification and priority document.

Obviousness Rejection of Claims 1-14, and 91-94

Since the validity of the priority claim to the '260 patent is clear, Van Wie is not prior art.

The same reasoning applies to disqualify Van Wie as prior art to claims 5 and 10.

Claims 26-29 are not anticipated by Daniele

Daniele clearly relates to two-dimensional glyph codes printed on documents, which is not relevant to audible attributes of music signals recited in claims 26-29. As shown in Figs. 5 and 6 of Daniele, the glyph codes are small, two-dimensional slash marks placed on the page of a document in regions 150, 152, preferably in the margins to avoid interference with the text and other information on the document. While the glyph codes can be made small enough and placed in the background of the page so as not to be “readily discernable to the person attempting to make an unauthorized copy,” they are nonetheless confined to markings on a document. Daniele’s reference to glyph codes in connection with music, does not relate to “altering audible attributes of a music signal” as recited in claim 26. In fact, Daniele expressly states that “glyph codes that run along the **margins of a page** can be used to identify the copying of specific lines, as may be important in the reproduction of valuable poetry, plays or music. **[Emphasis Added in Bold]**” Clearly, Daniele’s reference to use of glyph codes with music is only in the context of placing the glyph marking on the margins of the page of sheet music documents. There is no other teaching that would suggest how to apply glyphs to audible attributes of music signals.

In the Answer, the Examiner asks the following question: “If a glyph code is not readily discernable (visible) to a person attempting to make unauthorized copy as Daniele discloses then why is it only a visible marking placed on documents and not technically possible to be inserted into music as Appellant appears to argue?”

Claim 26 recites audible attributes of a music signal, among other elements relating to processing of these audible attributes of the music signal. And once this is understood, the answer is clear: Daniele’s two-dimensional glyph codes are markings placed on documents (regardless of how discernable these markings are on the document

to a person), and such document marking is wholly unrelated to processing audible attributes of a music signal.

Applicant's arguments regarding claims 27 and 29 still stand and have not been rebutted by the Examiner's insistence regarding the applicability of Daniele's glyph codes to the claims.

Applicant's respectfully request reversal of all of the rejections.

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Respectfully submitted,

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